WEST Search History

DATE: Tuesday, November 12, 2002

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L3	L2 and (dependent or control)	713	L3
L2	L1 and adenovirus	715	L2
L1	cre and flp	827	L1

END OF SEARCH HISTORY

FILE 'HOME' ENTERED AT 19:46:24 ON 12 NOV 2002

=> FIL MEDLINE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'MEDLINE' ENTERED AT 19:46:31 ON 12 NOV 2002

FILE LAST UPDATED: 12 NOV 2002 (20021112/UP). FILE COVERS 1958 TO DATE.

On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2002 vocabulary. Enter HELP THESAURUS for details.

If you received SDI results from MEDLINE on October 8, 2002, these may have included old POPLINE data and in some cases duplicate abstracts. For further information on this situation, please visit NLM at: http://www.nlm.nih.gov/pubs/techbull/so02/so02_popline.html

To correct this problem, CAS will remove the POPLINE records from the MEDLINE file and process the SDI run dated October 8, 2002 again.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s flp and cre and adenovirus
           507 FLP
            13 FLPS
           516 FLP
                 (FLP OR FLPS)
          3016 CRE
           183 CRES
          3072 CRE
                 (CRE OR CRES)
         18707 ADENOVIRUS
          7339 ADENOVIRUSES
         20402 ADENOVIRUS
                 (ADENOVIRUS OR ADENOVIRUSES)
L1           4 FLP AND CRE AND ADENOVIRUS

=> display l1
ENTER ANSWER NUMBER OR RANGE (1):1-4
ENTER DISPLAY FORMAT (BIB):bib abs

L1   ANSWER 1 OF 4     MEDLINE
AN   2001638347     MEDLINE
DN   21545440   PubMed ID: 11694078
TI   DNA substrates influence the recombination efficiency mediated by
     FLP recombinase expressed in mammalian cells.
AU   Nakano M; Ishimura M; Chiba J; Kanegae Y; Saito I
CS   Laboratory of Molecular Genetics, Institute of Medical Science, The
     University of Tokyo, Minato-ku, Tokmo 108-8639, Japan.
SO   MICROBIOLOGY AND IMMUNOLOGY, (2001) 45 (9) 657-65.
```

Journal code: 7703966. ISSN: 0385-5600.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200205
ED Entered STN: 20011107
Last Updated on STN: 20020605
Entered Medline: 20020516
AB The **FLP** recombinase derived from Saccharomyces cerevisiae mediates precise site-specific recombination between a pair of **FLP** recognition targets (FRTs). Like the **Cre**/loxP system derived from bacteriophage P1, the **FLP**/FRT system has recently been applied to gene regulation systems using an **FLP**-expressing recombinant **adenovirus** (rAd) (Nakano et al, Nucleic Acids Res. 29: e40, 2001). In an attempt to improve the **FLP**/FRT system by altering its DNA substrates, we compared the recombination efficiency among different substrates by a quantitative in vitro assay using **FLP** expressed in mammalian cells. Unexpectedly, we found that one linearized DNA substrate showed 4- to >20-fold lower recombination efficiency than other substrates, which phenomenon has not been observed in the **Cre**/loxP system. The quantitative in vitro assay using truncated DNA substrates suggested that the recombination efficiency seemed to be influenced not only by the linearized position of the substrate, but also by the length between a pair of FRTs. Such substrate preference of **FLP** expressed in mammalian cells should probably be noted when designing versatile applications of the **FLP**/FRT system as a gene regulation system in mammalian systems. Fortunately, however, we demonstrated that no substrate preference was observed when using a particular substrate (pCAFNF5) and the preference was reduced when using a certain pair of mutant FRTs (f72), which will also be a promising tool for simultaneous gene regulation in combination with wild-type FRT.

L1 ANSWER 2 OF 4 MEDLINE
AN 2001348198 MEDLINE
DN 21279062 PubMed ID: 11385466
TI Efficient FLPe recombinase enables scalable production of helper-dependent adenoviral vectors with negligible helper-virus contamination.
AU Umana P; Gerdes C A; Stone D; Davis J R; Ward D; Castro M G; Lowenstein P R
CS Molecular Medicine and Gene Therapy Unit, Room 1.302 Stopford Building, School of Medicine, University of Manchester, Oxford Road, Manchester M13 9PT, United Kingdom.. pablo.umana@glycart.com
SO NATURE BIOTECHNOLOGY, (2001 Jun) 19 (6) 582-5.
Journal code: 9604648. ISSN: 1087-0156.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200108
ED Entered STN: 20010806
Last Updated on STN: 20010806
Entered Medline: 20010802
AB Helper-dependent (HD), high-capacity **adenoviruses** are one of the most efficient and safe gene therapy vectors, capable of mediating long-term expression. Currently, the most widely used system for HD vector production avoids significant contamination with helper virus by using producer cells stably expressing a nuclear-targeted **Cre** recombinase and an engineered first-generation helper virus with parallel loxP sites flanking its packaging signal. The system requires a final, density-based separation of HD and residual helper viruses by ultracentrifugation to reduce contaminating helper virus to low levels. This separation step hinders large-scale production of clinical-grade HD virus. By using a very efficient recombinase, in vitro-evolved FLPe (ref.

14), to excise the helper virus packaging signal in the producer cells, we have developed a scalable HD vector production method. **FLP** has previously been shown to mediate maximum levels of excision close to 100% compared to 80% for **Cre** (ref. 15). Utilizing a common HD plasmid backbone, the FLPe-based system reproducibly yielded HD virus with the same low levels of helper virus contamination before any density-based separation by ultracentrifugation. This should allow large-scale production of HD vectors using column chromatography-based virus purification.

L1 ANSWER 3 OF 4 MEDLINE
AN 2001189831 MEDLINE
DN 21169376 PubMed ID: 11266575
TI Efficient gene activation in cultured mammalian cells mediated by **FLP** recombinase-expressing recombinant **adenovirus**.
AU Nakano M; Odaka K; Ishimura M; Kondo S; Tachikawa N; Chiba J; Kanegae Y; Saito I
CS Laboratory of Molecular Genetics, Institute of Medical Science, University of Tokyo, 4-6-1 Shirokanedai, Minato-ku, Tokyo 108-8639, Japan.
SO NUCLEIC ACIDS RESEARCH, (2001 Apr 1) 29 (7) E40.
Journal code: 0411011. ISSN: 1362-4962.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200105
ED Entered STN: 20010517
Last Updated on STN: 20010521
Entered Medline: 20010503
AB A recombinant **adenovirus** (rAd) expressing **Cre** recombinase derived from bacteriophage P1 has already been extensively used for the conditional gene activation and inactivation strategies in mammalian systems. In this study, we generated AxCAFLP, a rAd expressing **FLP** recombinase derived from Saccharomyces cerevisiae and carried out quantitative comparisons with **Cre**-expressing rAd in both in vitro and in cultured cells to provide another efficient gene regulation system in mammalian cells. In the in vitro experiments, the relative recombination efficiency of **FLP** expressed in 293 cells infected with **FLP**-expressing rAd was approximately one-thirtieth that of **Cre** even at 30 degrees C, the optimum temperature for **FLP** activity, and was approximately one-ninetieth at 37 degrees C. Co-infection experiments in HeLa cells using a target rAd conditionally expressing LacZ under the control of **FLP** showed that an **FLP**-expressing rAd, infected at a multiplicity of infection (MOI) of 5, was able to activate the transgene in almost 100% of HeLa cells whereas the **Cre**-expressing rAd was sufficient at an MOI of 0.2. Since an MOI of 5 is ordinarily used in rAd experiments, these results showed that the **FLP**-expressing rAd is useful for gene activation strategies and is probably applicable to a sequential gene regulation system in combination with **Cre**-expressing rAd in mammalian cells.

L1 ANSWER 4 OF 4 MEDLINE
AN 2000446637 MEDLINE
DN 20451819 PubMed ID: 10997266
TI Yeast recombinase **FLP** functions effectively in human cells for construction of **adenovirus** vectors.
AU Ng P; Cummings D T; Evelegh C M; Graham F L
CS McMaster University, Hamilton, ON, Canada.
SO BIOTECHNIQUES, (2000 Sep) 29 (3) 524-6, 528.
Journal code: 8306785. ISSN: 0736-6205.
CY United States
DT Report; (TECHNICAL REPORT)
LA English

FS Priority Journals
EM 200101
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010118
AB We have recently developed a high-efficiency method of constructing **adenovirus** vectors based on **Cre**-mediated recombination between two plasmids co-transfected into 293 cells. The simplicity and efficiency of this method should greatly expedite the construction of most recombinant vectors. However, this system would not be suitable for constructing vectors bearing loxP sites elsewhere in the genome because of undesirable **Cre**-mediated vector rearrangements. To address this, we have developed a similar system using **FLP**-mediated site-specific recombination for the construction of **adenovirus** vectors.

=> d his

(FILE 'HOME' ENTERED AT 19:46:24 ON 12 NOV 2002)

FILE 'MEDLINE' ENTERED AT 19:46:31 ON 12 NOV 2002
L1 4 S FLP AND CRE AND ADENOVIRUS

=> s flp and cre
507 FLP
13 FLPS
516 FLP
(FLP OR FLPS)
3016 CRE
183 CRES
3072 CRE
(CRE OR CRES)
L2 59 FLP AND CRE

=> s l2 and expression
528998 EXPRESSION
10467 EXPRESSIONS
533988 EXPRESSION
(EXPRESSION OR EXPRESSIONS)
L3 26 L2 AND EXPRESSION

=> display l3
ENTER ANSWER NUMBER OR RANGE (1):15-26
ENTER DISPLAY FORMAT (BIB):bib

L3 ANSWER 15 OF 26 MEDLINE
AN 2001189831 MEDLINE
DN 21169376 PubMed ID: 11266575
TI Efficient gene activation in cultured mammalian cells mediated by **FLP** recombinase-expressing recombinant adenovirus.
AU Nakano M; Odaka K; Ishimura M; Kondo S; Tachikawa N; Chiba J; Kanegae Y; Saito I
CS Laboratory of Molecular Genetics, Institute of Medical Science, University of Tokyo, 4-6-1 Shirokanedai, Minato-ku, Tokyo 108-8639, Japan.
SO NUCLEIC ACIDS RESEARCH, (2001 Apr 1) 29 (7) E40.
Journal code: 0411011. ISSN: 1362-4962.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200105
ED Entered STN: 20010517
Last Updated on STN: 20010521

Entered Medline: 20010503

L3 ANSWER 16 OF 26 MEDLINE
AN 2000403004 MEDLINE
DN 20390694 PubMed ID: 10935025
TI Conditional control of gene **expression** in the mammary gland.
AU Furth P A
CS Department of Medicine, Institute of Human Virology, University of Maryland Medical School, Baltimore 21201, USA.. furth@nih.gov
NC CA68033 (NCI)
CA70545 (NCI)
SO JOURNAL OF MAMMARY GLAND BIOLOGY AND NEOPLASIA, (1997 Oct) 2 (4) 373-83. Ref: 58
Journal code: 9601804. ISSN: 1083-3021.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200008
ED Entered STN: 20000901
Last Updated on STN: 20000901
Entered Medline: 20000822

L3 ANSWER 17 OF 26 MEDLINE
AN 2000402639 MEDLINE
DN 20305240 PubMed ID: 10844201
TI Transgenic livestock: premises and promises.
AU Niemann H; Kues W A
CS Department of Biotechnology, Institut fur Tierzucht und Tierverhalten (FAL), Mariensee, Neustadt, Germany.. niemann@tzv.fal.de
SO ANIMAL REPRODUCTION SCIENCE, (2000 Jul 2) 60-61 277-93. Ref: 85
Journal code: 7807205. ISSN: 0378-4320.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200008
ED Entered STN: 20000901
Last Updated on STN: 20000901
Entered Medline: 20000822

L3 ANSWER 18 OF 26 MEDLINE
AN 1999361012 MEDLINE
DN 99361012 PubMed ID: 10432447
TI Analysis of mammalian cis-regulatory DNA elements by homologous recombination.
AU Fiering S; Bender M A; Groudine M
CS Department of Microbiology, Dartmouth Medical School, Hanover, New Hampshire 03755, USA.
NC P30 HD28834 (NICHD)
SO METHODS IN ENZYMOLOGY, (1999) 306 42-66. Ref: 81
Journal code: 0212271. ISSN: 0076-6879.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199910
ED Entered STN: 19991101

Last Updated on STN: 19991101
Entered Medline: 19991020

L3 ANSWER 19 OF 26 MEDLINE
AN 1999261932 MEDLINE
DN 99261932 PubMed ID: 10330046
TI The **Cre**/loxP system and gene targeting in the kidney.
AU Stricklett P K; Nelson R D; Kohan D E
CS Department of Internal Medicine, Veterans Affairs Medical Center, Salt Lake City, Utah 84132, USA.
NC DK-02132-06 (NIDDK)
DK-52043 (NIDDK)
HL-56857 (NHLBI)
+
SO AMERICAN JOURNAL OF PHYSIOLOGY, (1999 May) 276 (5 Pt 2) F651-7. Ref: 47
Journal code: 0370511. ISSN: 0002-9513.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199906
ED Entered STN: 19990614
Last Updated on STN: 19990614
Entered Medline: 19990603

L3 ANSWER 20 OF 26 MEDLINE
AN 1999039030 MEDLINE
DN 99039030 PubMed ID: 9821589
TI Cell-specific ecdysone-inducible **expression** of **FLP** recombinase in mammalian cells.
AU Sawicki J A; Monks B; Morris R J
CS Lankenau Medical Research Center, Wynnewood, PA, USA.
NC CA45293 (NCI)
SO BIOTECHNIQUES, (1998 Nov) 25 (5) 868-70, 872-5.
Journal code: 8306785. ISSN: 0736-6205.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199901
ED Entered STN: 19990202
Last Updated on STN: 19990202
Entered Medline: 19990119

L3 ANSWER 21 OF 26 MEDLINE
AN 1998406325 MEDLINE
DN 98406325 PubMed ID: 9733573
TI Using **Flp**-recombinase to characterize expansion of Wnt1-expressing neural progenitors in the mouse.
AU Dymecki S M; Tomasiewicz H
CS Department of Genetics, Harvard Medical School, 200 Longwood Avenue, Boston, Massachusetts, 02115-5701, USA.. Dymecki@rascal.med.harvard.edu
SO DEVELOPMENTAL BIOLOGY, (1998 Sep 1) 201 (1) 57-65.
Journal code: 0372762. ISSN: 0012-1606.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199809
ED Entered STN: 19981008
Last Updated on STN: 19981008
Entered Medline: 19980928

L3 ANSWER 22 OF 26 MEDLINE
AN 1998325677 MEDLINE
DN 98325677 PubMed ID: 9661200
TI Improved properties of **FLP** recombinase evolved by cycling mutagenesis.
CM Comment in: Nat Biotechnol. 1998 Jul;16(7):617-8
AU Buchholz F; Angrand P O; Stewart A F
CS European Molecular Biology Laboratory (EMBL), Heidelberg, Germany.
SO NATURE BIOTECHNOLOGY, (1998 Jul) 16 (7) 657-62.
Journal code: 9604648. ISSN: 1087-0156.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199810
ED Entered STN: 19981021
Last Updated on STN: 19981021
Entered Medline: 19981015

L3 ANSWER 23 OF 26 MEDLINE
AN 97263802 MEDLINE
DN 97263802 PubMed ID: 9108159
TI **Cre**-mediated somatic site-specific recombination in mice.
AU Akagi K; Sandig V; Vooijs M; Van der Valk M; Giovannini M; Strauss M; Berns A
CS Division of Molecular Genetics, The Netherlands Cancer Institute, Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands.
SO NUCLEIC ACIDS RESEARCH, (1997 May 1) 25 (9) 1766-73.
Journal code: 0411011. ISSN: 0305-1048.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199705
ED Entered STN: 19970609
Last Updated on STN: 19980206
Entered Medline: 19970529

L3 ANSWER 24 OF 26 MEDLINE
AN 97044461 MEDLINE
DN 97044461 PubMed ID: 8889532
TI Transgene Coplacement and high efficiency site-specific recombination with the **Cre**/loxP system in Drosophila.
AU Siegal M L; Hartl D L
CS Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, Massachusetts 02138, USA.
NC GM-33741 (NIGMS)
HG-01250 (NHGRI)
SO GENETICS, (1996 Oct) 144 (2) 715-26.
Journal code: 0374636. ISSN: 0016-6731.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199702
ED Entered STN: 19970227
Last Updated on STN: 20000303
Entered Medline: 19970211

L3 ANSWER 25 OF 26 MEDLINE
AN 96392350 MEDLINE
DN 96392350 PubMed ID: 8799138
TI Reversible immortalization of mammalian cells mediated by retroviral

transfer and site-specific recombination.
AU Westerman K A; Leboulch P
CS Harvard-Massachusetts Institute of Technology Division of Health Sciences and Technology, Cambridge 02139, USA.
NC HL48374-01 (NHLBI)
HL55435-01 (NHLBI)
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1996 Aug 20) 93 (17) 8971-6.
Journal code: 7505876. ISSN: 0027-8424.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199610
ED Entered STN: 19961219
Last Updated on STN: 19961219
Entered Medline: 19961031

L3 ANSWER 26 OF 26 MEDLINE
AN 94287199 MEDLINE
DN 94287199 PubMed ID: 8016653
TI Knockout mice: round two.
CM Comment on: Science. 1994 Jul 1;265(5168):103-6
Erratum in: Science 1994 Aug 12;265(5174):855
AU Barinaga M
SO SCIENCE, (1994 Jul 1) 265 (5168) 26-8.
Journal code: 0404511. ISSN: 0036-8075.
CY United States
DT Commentary
News Announcement
LA English
FS Priority Journals
EM 199407
ED Entered STN: 19940810
Last Updated on STN: 19950206
Entered Medline: 19940727

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ENTER (L3), L# OR ?:l3
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L3 ANSWER 20 OF 26 MEDLINE
AN 1999039030 MEDLINE
DN 99039030 PubMed ID: 9821589
TI Cell-specific ecdysone-inducible **expression** of **FLP** recombinase in mammalian cells.
AU Sawicki J A; Monks B; Morris R J
CS Lankenau Medical Research Center, Wynnewood, PA, USA.
NC CA45293 (NCI)
SO BIOTECHNIQUES, (1998 Nov) 25 (5) 868-70, 872-5.
Journal code: 8306785. ISSN: 0736-6205.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199901
ED Entered STN: 19990202
Last Updated on STN: 19990202
Entered Medline: 19990119
AB The ability of site-specific recombinases, like **FLP** and **Cre**, to catalyze alterations in genomic DNA is well established, whereas their application to genetic engineering strategies has been restricted because of the inability to temporally regulate their

expression and subsequent recombination events in specific populations of cells. We describe a regulatory system for ecdysone-controlled **expression** of **FLP** recombinase. Furthermore, we demonstrate that ecdysone-induced, **FLP**-mediated site-specific recombination events can be targeted to specific cells. This system can be applied to cell-lineage studies as well as to the design of gene-therapy strategies, particularly in stem cells.

L3 ANSWER 21 OF 26 MEDLINE
AN 1998406325 MEDLINE
DN 98406325 PubMed ID: 9733573
TI Using **Flp**-recombinase to characterize expansion of Wnt1-expressing neural progenitors in the mouse.
AU Dymecki S M; Tomasiewicz H
CS Department of Genetics, Harvard Medical School, 200 Longwood Avenue, Boston, Massachusetts, 02115-5701, USA.. Dymecki@rascal.med.harvard.edu
SO DEVELOPMENTAL BIOLOGY, (1998 Sep 1) 201 (1) 57-65.
Journal code: 0372762. ISSN: 0012-1606.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199809
ED Entered STN: 19981008
Last Updated on STN: 19981008
Entered Medline: 19980928
AB Here we demonstrate how a **Flp** recombinase-based tagging system can be used to link temporally distinct developmental events in the mouse. By directly following **Flp**-mediated DNA rearrangements we have analyzed the adult expansion of embryonic neural progenitors which transiently express the signaling factor Wnt1. We report Wnt1 promoter activity in embryonic cells that give rise to aspects of the adult midbrain, cerebellum, spinal cord, and dorsal root ganglia. These findings show that cells transiently expressing Wnt1 play more than an inductive role during early brain regionalization, giving rise to distinct adult brain regions as well as neural crest derivatives. Moreover, these results reveal two new features of the **Flp**-FRT system: First, **Flp**(F70L) can effectively recombine target sites (FRTs) placed in an endogenous locus in a variety of tissues in vivo, despite previous in vitro evidence of thermolability; and second, **Flp**(F70L) action can be predictably and tightly regulated in the mouse embryo, making it suitable for fate mapping applications. A further advantage of the **Flp**-FRT system is that marked lineages can ultimately be combined with germline mutations and deficiencies currently being generated using the **Cre**-loxP recombination system-in this way it should be possible to analyze mutant gene activities directly for their effect on cell fate.

L3 ANSWER 24 OF 26 MEDLINE
AN 97044461 MEDLINE
DN 97044461 PubMed ID: 8889532
TI Transgene Coplacement and high efficiency site-specific recombination with the **Cre**/loxP system in Drosophila.
AU Siegal M L; Hartl D L
CS Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, Massachusetts 02138, USA.
NC GM-33741 (NIGMS)
HG-01250 (NHGRI)
SO GENETICS, (1996 Oct) 144 (2) 715-26.
Journal code: 0374636. ISSN: 0016-6731.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Priority Journals
EM 199702
ED Entered STN: 19970227
Last Updated on STN: 20000303
Entered Medline: 19970211

AB Studies of gene function and regulation in transgenic Drosophila are often compromised by the possibility of genomic position effects on gene **expression**. We have developed a method called transgene coplacement, in which any two sequences can be positioned at exactly the same site and orientation in the genome. Transgene coplacement makes use of the bacteriophage P1 system of **Cre**/loxP site-specific recombination, which we have introduced into Drosophila. In the presence of a **cre** transgene driven by a dual hsp70-Mos1 promoter, a white reporter gene flanked by loxP sites is excised with virtually 100% efficiency both in somatic cells and in germ cells. A strong maternal effect, resulting from **Cre** recombinase present in the oocyte, is observed as white or mosaic eye color in F1 progeny. Excision in germ cells of the F1 yields a strong grand-maternal effect, observed as a highly skewed ratio of eye-color phenotypes in the F2 generation. The excision reactions of **Cre**/loxP and the related **FLP**/FRT system are used to create Drosophila lines in which transgenes are at exactly allelic sites in homologous chromosomes.

=>